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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/339,430	06/24/1999	RICHARD A. JONES	373-101	2596

7590 12/20/2004

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EXAMINER

YE, LIN

ART UNIT PAPER NUMBER

2615

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/339,430	JONES, RICHARD A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lin Ye	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendments***

1. Applicant's Amendments filed 9/21/04 have been fully considered but they are not persuasive as to claims 2-15 and 17-19.

For claim 17, the applicant canceled the claims 1 and 16 and replaced by the new claim 17. Applicant states the claim 17 offers capabilities neither taught nor implied by the art of record. The examiner disagrees. The claim 17 is anticipated by Ackles U.S. patent 6,024,145. Please see the following art rejection for the examiner detail comments.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ackles U.S. Patent 6,024,145.

Referring to claim 17, the Ackles reference discloses in Figure 19, one of the examples of apparatus for remotely tilting and panning a camera head (154, see Col. 10, lines 60-62) fixed to a boom (10, see Col. 5, lines 44-46), said apparatus comprising, in combination: a first (motor 158) and a second (motors 160 can be only one motor, and the plurality motors is for

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extending the arm 152) pressure-actuated positioner (e.g., hydraulic positioner, see Col. 5, lines 44-56), each of said positioners including an elongated, output shaft rotatable with respect to an outer housing; said positioners being vertically and orthogonally disposed with respect to one another so that said output shafts define orthogonal tilt and pan axes (e.g., direction D provided by motor 158 is orthogonal direction E provided by motors 160); means for coupling said camera head (154) to one of said positioners (158 or 160) so that the tilt of camera head is responsive to the angular rotation of the output shaft of said positioner; and means for coupling said output shaft of said positioner to said boom (10) so that a pan angle of said camera head (154) is responsive to rotation of said outer housing of said other positioner (see Col. 10, lines 60-67 and Col. 11, lines 1-2).

Referring to claim 18, the Ackles reference discloses an inclined elongated bracket (arm 152); and the outer housings of said positioners (158 and 160) being fixed to opposed ends of said bracket as shown in Figure 19.

Referring to claim 19, the Ackles reference discloses wherein each of said positioners additionally comprises: the angular rotation of each of said output shafts being responsive to fluid flows transmitted through a pair of lines (two inlet lines 144 supply pressurized water, see Col. 10 51-59 or two hydraulic lines 20 as shown in Figure 9) coupled thereto a valve associated with each of said positioners, each of said valves being coupled to pair of lines for controlling said fluid flows (e.g., flow control valve 252 is operated by electrical solenoids 252a and regulates fluid flow, See Figure 25 and Col. 9, lines 32-35); a hydraulic unit (pump 250) for providing fluid under predetermined (float circuit translates the water resistance on boom 12d and preset pressure reducing valves, See Col. 9, lines 16-25) pressure to said

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valve; and f) means for selectively energizing said valve to determined said fluid flows (See Col. 9, lines 47-56).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ackles U.S.

Patent 6,024,145 in view of Kraft U.S. Patent 4,648,782.

Referring to claim 2, the Ackles reference discloses wherein each of said positioners (158 and 160) further includes: a) a rotational actuator having an actuator shaft (rotating E or D direction as shown in Figure 19); b) the angular displacement of said actuator shaft being directly responsive to said fluid flows (See Col. 9, lines 16-25); c) generally-cylindrical inner housing said inner housing having an internal cavity for accommodating said rotational actuator shaft as shown in Figure 8 (See Col. 5, lines 49-50); the axis of symmetry of said generally-cylindrical inner housing being coincident with that of said actuator shaft.

However, the Ackles reference does not explicitly show an inner housing including a rotatable cylindrical main shaft.

The Kraft reference discloses in Figures 4 and 28-30, a manipulator device particularly adapted for deep-sea, submersible use utilizes a human-like arm. The manipulator is

hydraulically powered and a hydraulic manifold forms a body of the shoulder arrangement and is situated adjacent an azimuth control actuator. A TV camera can be mounted on the forearm of manipulator (not shown, See Col. 12, lines 9-10). As shown in Figures 25-26 and 28-30, a inner housing including a cylindrical main shaft (shaft 224) of reduced diameter at one end thereof; means for fixing said actuator shaft to said inner housing hereby rotation of said inner housing generates corresponding rotation of said main shaft. The Kraft reference is an evidence that one of ordinary skill in the art at the time to see more advantages for the positioner has a inner housing including a cylindrical main shaft, because it can significantly reduce the water resistance effect under the deep-sea and make the positional more strong and rotatable in any degree. For that reason, it would have been obvious to see the positioner including a rotatable cylindrical main shaft in the inner housing disclosed by Ackles.

Referring to claim 3, the Kraft reference discloses wherein said at least one positioner (manifold 6) further includes: a generally-cylindrical outer housing; said generally-cylindrical outer housing having a hollow interior for accommodating said inner housing; and means for rotatably coupling said inner housing to said outer housing as shown in Figures 25-26 and 28-30.

Referring to claim 4, the Kraft reference discloses wherein rotational actuator further includes: a substantially-hollow cylindrical body with an axially-elongated pedestal protruding inwardly and contacting a section of said actuator shaft; said section of said actuator shaft (224) having an axially-elongated radially-directed fin extending to the inner surface of said substantially-hollow cylindrical body whereby the interior of said cylindrical body comprises two chambers; a wall at one end of said rotational actuator having two

apertures, each of said apertures being in communication with one of said chambers; and one of said lines being in communication with one of said apertures and the other line being in communication with the other of said apertures as shown in Figures 25-30.

Referring to claim 5, the Kraft reference discloses wherein said cylindrical neck is exteriorly-threaded as shown in Figure 28-30.

Referring to claim 6, the Kraft reference discloses a contacting annular seal (plate 236 and 237) between the interior of said outer housing and the exterior of said inner housing as shown in Figure 25.

Referring to claim 7, the Kraft reference discloses wherein said seal further includes: a pair of outwardly-directed wipers (231 and 232); and said wipers are axially aligned adjacent said outer surface of said inner housing as shown in Figures 25-26 and 28-30.

Referring to claim 8, the Kraft reference discloses including a pair of contacting, axially aligned annular bearing races between the interior of said outer housing and the exterior of said inner housing as shown in Figures 25-30.

Referring to claim 9, the Kraft reference discloses wherein each of said bearing races houses a tapered bearing as shown in Figures 25-30.

Referring to claim 10, the Kraft reference discloses wherein said means for fixing said actuator shaft to said inner housing further comprises: a tapered collet (cylinders 223), said collet surrounding and being coaxial with said actuator shaft; means for fixing said collet to said inner housing; and means for fixing said tapered collet to said actuator shaft as shown in Figure 25-30.

Referring to claim 11, the Kraft reference discloses wherein said means for fixing said tapered collet to said actuator shaft comprises an inwardly-directed key extending from the interior of said collet to a groove within the exterior of said actuator shaft as shown in Figures 25-30.

Referring to claim 12, the Kraft reference discloses the interior of said main shaft position being substantially hollow; a substantially-cylindrical plug, said plug being received within said hollow interior of said main shaft; and means for sealing said plug to said main shaft as shown in Figures 28-30.

Referring to claim 13, the Kraft reference discloses for sealing comprises: an o-ring; and said o-ring being received within an annular groove within the outer surface of said plug as shown in Figure 35.

Referring to claim 14, the Kraft reference discloses a mounting structure (216, See Figure 28); said mounting structure including a substantially-planar plate having an internal aperture for accommodating said cylindrical main shaft (224); and an interiorly-threaded nut (bolts 238) for securing said plate to said main shaft whereby said mounting structure is rotatable with said main shaft.

Referring to claim 15, the Kraft reference discloses two positioners (235 and 240); an inclined bracket, the ends of said bracket being fixed to the outer housing of said positioners; and the mounting structure (204) of one of said positioners being fixed to said camera head and the mounting structure of the other positioned being fixed to a camera support structure as shown in Figure 28-30.



*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Ye whose telephone number is (703) 305-3250. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lin Ye  
Examiner  
Art Unit 2615

December 10, 2004